



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,111	04/10/2006	Hiroki Yamada	1001560-000594	9370
21839 7590 02/17/2011 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404				
EXAMINER				
ROST, ANDREW J				
ART UNIT		PAPER NUMBER		
3753				
NOTIFICATION DATE		DELIVERY MODE		
02/17/2011		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com  
offserv@bipc.com

### Office Action Summary

**Application No.**

10/575,111

**Applicant(s)**

YAMADA ET AL.

**Examiner**

Andrew J. Rost

**Art Unit**

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-942)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is in response to the amendment filed 12/01/2010. No claims are currently amended. Claims 5-9 and 11-18 are canceled. No claims are newly added. Presently, claims 1-4 and 10 are pending.

### ***Response to Arguments***

2. Applicant's arguments filed 12/01/2010 have been fully considered but they are not persuasive.

3. Applicant argues the rejection of claims 1-4, 7, 10, 13 and 16 as being rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of U.S. Patent No. 5,391,665 (Matsunaga) and U.S. Patent No. 3,595,523 (Felton) on pages 2-7 of the remarks.

Applicant argues the Felton reference with respect to the recitation of "wherein said resin member is a case body of a valve drive section" on page 3. However, Felton discloses a butterfly valve housing made of a plastic (resin) material. It is considered that the housing (1) of the butterfly valve encases the valve drive element (shaft 6) wherein the valve drive element (shaft 6) is driven to operate the blade (2) and, therefore, addresses the limitation "wherein said resin member is a case body of a valve drive section". Applicant argues that the Felton reference does not describe the case body of a valve drive section as that term is used in the present specification (page 5, third full paragraph, lines 2-3). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re*

*Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, it is considered that the plastic housing (1) that encases the valve drive element (shaft 6) addresses the limitation relating to "wherein said resin member is a case body of a valve drive section".

Applicant argues the combination of the Felton reference and the Matsunaga et al. reference on pages 3-4. It is noted that the Felton reference teaches the construction of a valve drive section (as described above) with the valve drive section being made of a plastic/resin material. It was noted that the Felton reference does not expressly disclose the use of an epoxy acrylate resin. However, it is considered that the Matsunaga reference teaches the use of an epoxy acrylate resin (various acrylates are disclosed in col. 6, lines 6-61) having various additives. The Matsunaga et al. reference teaches that a polymer having hydroxyl groups at both terminals becomes a high-molecular compound having excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth (col. 1, lines 14-24). Therefore, it is considered that one of ordinary skill in the art at the time the invention was made would have looked to various materials based upon the needs of the apparatus. In this case, one would look to the Matsunaga et al. reference in order to find the teaching of resin material having hydroxyl groups at both ends in combination with other additives for providing a compound that would have excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

4. Since the grounds of rejection were previously presented, the instant Office action is made final.

#### ***Information Disclosure Statement***

5. The Information Disclosure Statement filed 3/12/2010 has been acknowledged. The citation of the Taiwanese Office Action dated November 23, 2009 is noted but has been lined through because an English language Translation has not accompanied the Taiwanese Office Action.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4, 7, 10, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsunaga et al. (5,391,665) in view of Felton (3,595,523), or vice versa.

Regarding claim 1, Matsunaga et al. disclose a resin member formed by molding a molding material having a resin composition consisting of an epoxy acrylate resin (various acrylates are disclosed in col. 6, lines 6-61) having hydroxyl groups (hydroxyl group value from 20 to 200, col. 13, lines 10-13) formed at both ends, a polyfunctional isocyanate compound having a plurality of isocyanate groups in a molecule (col. 5, lines 30-32), a curing agent, an internal mold release agent and a fiber reinforcing material (glass fiber, various fillers are listed on col. 21, lines 30-55). Matsunaga et al. do not expressly disclose the specific ratios of components. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the components in the material in a manner (i.e., certain ratios) in order to provide any desired characteristics (i.e., a specific tensile strength of the material) for the intended use of the resin composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the ratios of the various

components in order to obtain the desired material properties (i.e., a tensile strength of 80 to 400 MPa at normal temperature) for an intended use (i.e., for a valve) of the final product of the resin. Matsunaga et al. do not disclose the resin material being used as a valve. Felton teaches a resin member (plastic housing 1) that is a case body of a valve drive section (housing 1 encases the valve drive element 6) to be old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the resin member of Matsunaga et al. as a case body of a valve drive section as taught by Felton in order to provide the useful characteristics of the resin material in a desired use. Alternatively, it would have been obvious to provide the valve casing of a valve drive section (casing surrounding the valve drive element 6) of the Felton reference as the resin material as taught by the Matsunaga et al. reference in order to provide the valve casing with desired strength properties. Additionally, the Matsunaga et al. reference teaches that a polymer having hydroxyl groups at both terminals becomes a high-molecular compound having excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth (col. 1, lines 14-24).

Regarding claim 2, Matsunaga et al. disclose a resin member formed by molding a molding material having a resin composition consisting of an epoxy acrylate resin (various acrylates are disclosed in col. 6, lines 6-61) having hydroxyl groups (hydroxyl group value from 20 to 200, col. 13, lines 10-13) formed at both ends, a polyfunctional isocyanate compound having a plurality of isocyanate groups in a molecule (col. 5, lines 30-32), a curing agent, an internal mold release agent and a fiber reinforcing material

(glass fiber, various fillers are listed on col. 21, lines 30-55). The recitation of "for a valve" is taken to be an intended use limitation and is not given patentable weight as long as the material is capable of being used for the intended use. Matsunaga et al. do not expressly disclose the specific ratios of components. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the components in the material in a manner (i.e., certain ratios) in order to provide any desired characteristics (i.e., a specific tensile strength of the material) for the intended use of the resin composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the ratios of the various components in order to obtain the desired material properties (i.e., a tensile strength of 80 to 400 MPa at normal temperature and a tensile strength of 75 to 350 MPa at 120°C) for an intended use (i.e., for a valve) of the final product of the resin. Matsunaga et al. do not disclose the resin material being used as a valve. Felton teaches a resin member (plastic housing 1) that is a case body of a valve drive section (housing 1 encases the valve drive element 6) to be old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was



made to provide the resin member of Matsunaga et al. as a case body of a valve drive section as taught by Felton in order to provide the useful characteristics of the resin material in a desired use. Alternatively, it would have been obvious to provide the valve casing of a valve drive section (casing surrounding the valve drive element 6) of the Felton reference as the resin material as taught by the Matsunaga et al. reference in order to provide the valve casing with desired strength properties. Additionally, the Matsunaga et al. reference teaches that a polymer having hydroxyl groups at both terminals becomes a high-molecular compound having excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth (col. 1, lines 14-24).

Regarding claim 3, Matsunaga et al. disclose a resin member formed by molding a molding material having a resin composition consisting of an epoxy acrylate resin (various acrylates are disclosed in col. 6, lines 6-61) having hydroxyl groups (hydroxyl group value from 20 to 200, col. 13, lines 10-13) formed at both ends, a polyfunctional isocyanate compound having a plurality of isocyanate groups in a molecule (col. 5, lines 30-32), a curing agent, an internal mold release agent and a fiber reinforcing material (glass fiber, various fillers are listed on col. 21, lines 30-55). The recitation of "for a valve" is taken to be an intended use limitation and is not given patentable weight as long as the material is capable of being used for the intended use. Matsunaga et al. do not expressly disclose the specific ratios of components. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the components in the material in a manner (i.e., certain ratios) in order to provide any

desired characteristics (i.e., a specific tensile strength of the material) for the intended use of the resin composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the ratios of the various components in order to obtain the desired material properties (i.e., a tensile strength of 80 to 400 MPa at normal temperature and a notched Izod impact strength of 15 to 100 KJ/m<sup>2</sup> at -20 to 120°C) for an intended use (i.e., for a valve) of the final product of the resin. Matsunaga et al. do not disclose the resin material being used as a valve. Felton teaches a resin member (plastic housing 1) that is a case body of a valve drive section (housing 1 encases the valve drive element 6) to be old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the resin member of Matsunaga et al. as a case body of a valve drive section as taught by Felton in order to provide the useful characteristics of the resin material in a desired use. Alternatively, it would have been obvious to provide the valve casing of a valve drive section (casing surrounding the valve drive element 6) of the Felton reference as the resin material as taught by the Matsunaga et al. reference in order to provide the valve casing with desired strength properties. Additionally, the

Matsunaga et al. reference teaches that a polymer having hydroxyl groups at both terminals becomes a high-molecular compound having excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth (col. 1, lines 14-24).

Regarding claim 4, Matsunaga et al. disclose a resin member formed by molding a molding material having a resin composition consisting of an epoxy acrylate resin (various acrylates are disclosed in col. 6, lines 6-61) having hydroxyl groups (hydroxyl group value from 20 to 200, col. 13, lines 10-13) formed at both ends, a polyfunctional isocyanate compound having a plurality of isocyanate groups in a molecule (col. 5, lines 30-32), a curing agent, an internal mold release agent and a fiber reinforcing material (glass fiber, various fillers are listed on col. 21, lines 30-55). The recitation of "for a valve" is taken to be an intended use limitation and is not given patentable weight as long as the material is capable of being used for the intended use. Matsunaga et al. do not expressly disclose the specific ratios of components. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the components in the material in a manner (i.e., certain ratios) in order to provide any desired characteristics (i.e., a specific tensile strength of the material) for the intended use of the resin composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Leshin*, 125 USPQ 416. See also *Ballas*

*Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331. *In re Aller*, 105 USPQ 233. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the ratios of the various components in order to obtain the desired material properties (i.e., a tensile strength of 80 to 400 MPa at normal temperature, a tensile strength of 75 to 350 MPa at 120°C and a notched Izod impact strength of 15 to 100 KJ/m<sup>2</sup> at -20 to 120°C) for an intended use (i.e., for a valve) of the final product of the resin. Matsunaga et al. do not disclose the resin material being used as a valve. Felton teaches a resin member (plastic housing 1) that is a case body of a valve drive section (housing 1 encases the valve drive element 6) to be old and well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the resin member of Matsunaga et al. as a case body of a valve drive section as taught by Felton in order to provide the useful characteristics of the resin material in a desired use. Alternatively, it would have been obvious to provide the valve casing of a valve drive section (casing surrounding the valve drive element 6) of the Felton reference as the resin material as taught by the Matsunaga et al. reference in order to provide the valve casing with desired strength properties. Additionally, the Matsunaga et al. reference teaches that a polymer having hydroxyl groups at both terminals becomes a high-molecular compound having excellence in various properties such as strength, heat resistance, weather resistance, durability and so forth (col. 1, lines 14-24).

In regards to claim 10, Matsunaga et al. disclose the use of additional fillers (col. 21, lines 30-55). Matsunaga et al. do not expressly disclose the specific ratios of

components (i.e., the fillers). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the components in the material in a manner (i.e., certain ratios) in order to provide any desired characteristics (i.e., a specific tensile strength of the material) for the intended use of the resin composition, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice and that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Leshin*, 125 USPQ 416. See also *Ballas Liquidating Co. v. Allied industries of Kansas, Inc.* (DC Kans) 205 USPQ 331. *In re Aller*, 105 USPQ 233.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hepperle can be reached on 571-272-4913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. J. R./  
Examiner, Art Unit 3753

/John K. Fristoe Jr./  
Primary Examiner, Art Unit 3753